

REMARKS

Claims 1-33 were pending in the present application. By virtue of this Preliminary Amendment, claims 1, 7, 14, 15, 19, 20, 22, and 24 have been amended. For the Examiner's convenience, an attachment listing pending claims, incorporating the amendments, is attached to this Amendment. Support for the amendment of claim 1 is found in original claim 1. Support for the amendment of claim 7 is found in the specification at, *inter alia*, substitute Figure 12 (as submitted in the Preliminary Amendment of December 4, 1998) and page 13, lines 30-37. Amendments of claims 14, 15, 19, 20, 22 and 24 are made solely to correct informalities.

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Assistant Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952 referencing docket no. 415852000100. However, the Assistant Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

Respectfully submitted,

Dated: January 2, 2001

By: 

Paul S. Naik
Limited Recognition Under 37 C.F.R.
§10.9(b)
(copy of certificate attached)

Morrison & Foerster LLP
755 Page Mill Road
Palo Alto, California 94304-1018
Telephone: (650) 813-5704
Facsimile: (650) 494-0792

Attachment Listing Claims Presently Under Examination

U.S. Serial No.: 09/202,035

Attorney Docket No.: 415852000100

1. (Twice Amended) A compound having structural homology to a contiguous sequence of amino acids within the sequence representing residues 149-197 of the G protein of respiratory syncytial virus, in which
 - a) no oligosaccharide is linked to potential serine, threonine or asparagine attachment sites;
 - b) four cysteine residues are involved in disulphide linkages; and
 - c) the pattern of disulphide linkage is Cys 173 linked to Cys 186, and Cys 176 linked to Cys 182,and in which said compound possesses a biological activity of respiratory syncytial virus G protein.
2. A compound according to claim 1 in which the virus is selected from the group consisting of human RSV subtype A, human RSV subtype B, bovine RSV, and mutants and variants thereof.
3. (Amended) A compound according to Claim 1 in which the compound is a peptide corresponding to amino acids 158 to 196 of the RSV G protein.
4. (Amended) A compound according to Claim 1 in which the peptide corresponds to amino acids 165 to 187 of the RSV G protein.

5. (Amended) A compound according to Claim 1 in which the compound is a peptide having one of the following amino acid sequences:

SEQ ID NO 1	K Q R Q N K P P S K P N N D F H F E V F N F V P C S I C S N N P T C W A I C K R I P N K K P G K K	✓
SEQ ID NO 2	N	
SEQ ID NO 3		R
SEQ ID NO 4	H	
SEQ ID NO 5	N	
SEQ ID NO 6	N	
SEQ ID NO 7	N	
SEQ ID NO 8		R
SEQ ID NO 9	S S K N K K D Y	G Q L K S T S N K ✓
SEQ ID NO 10	S S K N K K D Y	G Q L K S T S N K
SEQ ID NO 11	P P K N K K D Y	G Q L K S T S N K
SEQ ID NO 12	P P K N K K D Y	G Q L K S T S N K
SEQ ID NO 13	P P K N K K D Y	G Q L K S T S S N K
SEQ ID NO 14	P P K N K K D Y	G Q L K S T S N K
SEQ ID NO 15	S S K N K K D Y	G Q L K S T S N K
SEQ ID NO 16	N P S G S I E N H Q D H N N Q T L P Y	T E G L A L S L H I E T E R A S R A
SEQ ID NO 17		T R
SEQ ID NO 18	S	R T

6. A compound having structural homology to a contiguous sequence of amino acids within the sequence representing residues 149-197 of the G protein of RSV, in which at least one of cysteines 173, 176, 182 and 186 is absent or blocked, and in which said compound is not glycosylated, and has the ability to inhibit infectivity of RSV.

7. (Twice Amended) A compound according to Claim 6, selected from the group consisting of:

acetyl-KQRQNKPPSKPNNDHFHFEVFNFVPCSI CSNNPTCWAICKRIPNKKPGKKAmide

acetyl-KQRQNKPPSKPNNDHFHFEVFNFVPCSI CGAmide,

in which the cysteine residues are derivatized with acetamidomethyl

fluorescein isothiocarbamyl β -

alanyl KQRQNKPPSKPNNDHFHFEVFNFVPCSI CSNNPTCWAICKRIPNKKPGKKAmide

fluoresceinisothiocarbamy1 β -alany1FHFEVFNFPVCSICSNNPTCWAIC

KRIPNKKPGKKAmide

benzoylbenzyl-KQRQNKPPSKPNNDHFHFEVFNFPVCSICSNNPTCWAICKRIPNKKPGKK

Amide

biotinyl-KQRQNKPPSKPNNDHFHFEVFNFPVCSICSNNPTCWAICKRIPNKKPGKKAmide

acetyl-FHFEVFNFPVCSICSNNPTCWAICKRIPNKKPGKKAmide.

8. A compound according to any one of Claims 1 to 6 which is a peptidomimetic compound.
9. (Amended) A compound according to any one of Claims 1 to 7 in which one or more amino acids is replaced by its corresponding D-amino acid.
10. (Amended) A compound according to any one of claims 1 to 7 in which one or more individual amino acids is replaced by an analogous structure.
11. (Amended) A compound selected from the group consisting of the compounds of Claims 1 to 7, labelled with a detectable marker.
12. (Amended) A compound according to Claim 11, in which the detectable marker is a radioactive label.

13. (Amended) A compound according to claim 11, in which the detectable marker is a fluorescent, chemiluminescent or enzymic marker.
14. (Twice Amended) A diagnostic composition comprising a compound selected from the group consisting of the compounds of claims 1 to 7, the compounds of claims 1 to 6 that are peptidomimetic compounds, the compounds of claims 1 to 7 in which one or more amino acids is replaced by its corresponding D-amino acid, and the compounds of claims 1 to 7 in which one or more individual amino acids is replaced by an analogous structure, together with an acceptable carrier.
15. (Twice Amended) A pharmaceutical composition comprising a compound selected from the group consisting of the compounds of claims 1 to 7, the compounds of claims 1 to 6 that are peptidomimetic compounds, the compounds of claims 1 to 7 in which one or more amino acids is replaced by its corresponding D-amino acid, and the compounds of claims 1 to 7 in which one or more individual amino acids is replaced by an analogous structure, together with a pharmaceutically acceptable carrier.
16. (Amended) An antibody directed against a compound selected from the group consisting of the compounds of Claims 1 to 10.
17. (Amended) An antibody according to Claim 16 which is a protective antibody.

18. (Amended) A composition comprising antibody selected from the group of the antibodies of Claim 16 and Claim 17.
19. (Twice Amended) A composition according to Claim 14 in which the virus is human RSV.
20. (Twice Amended) A composition according to Claim 15 in which the virus is human RSV.
21. A composition according to any one of Claim 16 in which the virus is human RSV.
22. (Twice Amended) A method of prevention or treatment of *Pneumovirus* infection comprising the step of administering an effective amount of a compound selected from the group consisting of the compounds of claims 1 to 7, the compounds of claims 1 to 6 that are peptidomimetic compounds, the compounds of claims 1 to 7 in which one or more amino acids is replaced by its corresponding D-amino acid, and the compounds of claims 1 to 7 in which one or more individual amino acids is replaced by an analogous structure, to a mammal in need of such treatment.
23. A method of diagnosis of *Pneumovirus* infection, comprising exposing a biological fluid or sample from a mammal suspected of being infected with said virus to a compound selected from the group consisting of the compounds of Claims 1 to 10, and measuring the interaction between the compound and said fluid or sample.

24. (Twice Amended) A method of immunisation against *Pneumovirus* infection, comprising the step of immunising a mammal at risk of such infection with an immunising-effective dose of a compound selected from the group consisting of the compounds of claims 1 to 7, the compounds of claims 1 to 6 that are peptidomimetic compounds, the compounds of claims 1 to 7 in which one or more amino acids is replaced by its corresponding D-amino acid, and the compounds of claims 1 to 7 in which one or more individual amino acids is replaced by an analogous structure, said compound being immunogenic and having the ability to elicit protective antibody.

25. A method of identification of a cell surface receptor for respiratory syncytial virus G protein, comprising the step of detection of binding of a compound selected from the group consisting of the compounds of Claims 11 to 13 to a cell surface protein.

26. (Amended) A method according to Claim 24, in which the cell is susceptible to infection by respiratory syncytial virus.

27. A method according to Claim 25, in which the cell is susceptible to infection by respiratory syncytial virus.

28. A method according to Claim 25, in which the cell is a HEp-2 cell.

29. A method according to Claim 25, in which the method comprises the step of photoaffinity labelling of the receptor with a benzoylbenzyl derivative of the compound.
30. A method according to Claim 25, in which the method comprises the step of labelling of the receptor with a fluorescent derivative of the compound.
31. A method according to Claim 25, in which the method comprises the steps of binding a biotinylated derivative of the compound to a receptor, and binding of avidin to the derivative.
32. A method according to Claim 25, in which the method comprises the step of using an antibody according to Claim 16 to detect the binding of the compound.
33. A method according to Claim 25, in which the compound is multiply derivatised, thereby to achieve combined cross-linking, detection and identification of a receptor.